

DOW CHEMICAL U.S.A.

REPORT IDENTIFIER: 000130

EFFECTIVE:092993

MATERIAL SAFETY DATA SHEET

011104

10. ROST (R) **HEAT TRANSFER FLUID**

1. INGREDIENTS: (% W/W, UNLESS OTHERWISE NOTED)

PROPYLENE GLYCOL	CAS# 000057-55-6	95%
DIPOTASSIUM PHOSPHATE	CAS# 007758-11-4	<5%
DEIONIZED WATER	CAS# 007732-18-5	<5%

THIS DOCUMENT IS PREPARED PURSUANT TO THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200). IN ADDITION, OTHER SUBSTANCES NOT 'HAZARDOUS' PER THIS OSHA STANDARD MAY BE LISTED. WHERE PROPRIETARY INGREDIENT SHOWS, THE IDENTITY MAY BE MADE AVAILABLE AS PROVIDED IN THIS STANDARD.

2. PHYSICAL DATA:

BOILING POINT: 370F, 188C
VAP. PRESS: 0.22 MMHG @ 20C, 68F
VAP. DENSITY: 2.62
SOL. IN WATER: COMPLETE
SP. GRAVITY: 1.050 @ 60/60F, 16C
APPEARANCE: COLORLESS.
ODOR: ODORLESS LIQUID.

REC'D OCT 6 1993

CHEM CENTRAL / Detroit
13395 HURON RIVER DR.
ROMULUS, MI 48174
Ph. (313) 941-4800

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 215F, 102C
METHOD USED: TOC (TAG OPEN CUP)

FLAMMABLE LIMITS
LFL: 2.6% @ 100C
UFL: 12.5% @ 130C

EXTINGUISHING MEDIA: WATER FOG, CARBON DIOXIDE, DRY CHEMICAL, FOAM. FOR LARGE SCALE FIRES, ALCOHOL RESISTANT FOAMS ARE PREFERRED IF AVAILABLE. GENERAL PURPOSE SYNTHETIC FOAMS OR PROTEIN FOAMS MAY FUNCTION, BUT MUCH LESS EFFECTIVELY. WATER MAY BE USED TO FLUSH SPILLS AWAY FROM FIRE EXPOSURES AND TO DILUTE SPILLS TO NON-FLAMMABLE MIXTURES. IF POSSIBLE, CONTAIN FIRE RUN-OFF WATER. FOR LARGE SCALE FIRES, DIRECT WATER STREAM MAY CAUSE VIOLENT FROTHING, BUT FINE WATER SPRAY MAY HELP CONTROL SITUATION.

FIRE & EXPLOSION HAZARDS: KEEP UNNECESSARY PEOPLE AWAY; ISOLATE HAZARD AREA AND DENY UNNECESSARY ENTRY. WHEN USING WATER SPRAY, BOIL-OVER MAY OCCUR WHEN THE PRODUCT TEMPERATURE REACHES THE BOILING POINT OF WATER (TANK-TYPE SCENARIOS, NOT SPILLS).

FIRE-FIGHTING EQUIPMENT: WEAR POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE EQUIPMENT.

4. REACTIVITY DATA:

TEMPERATURE RANGE OF -30F TO 250F.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) OXIDIZING MATERIAL.

HAZARDOUS DECOMPOSITION PRODUCTS: COMBUSTION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE AND WATER. UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS AND SOIL. COVER WITH ABSORBENT MATERIAL, SOAK UP AND SWEEP INTO BAG.

DISPOSAL METHOD: DO NOT DUMP INTO STORM SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. FOR DISPOSAL, DISCHARGE INTO SANITARY SEWERS IS ONLY ALLOWABLE WITH THE EXPLICIT PRE-APPROVAL OF THE LOCAL BIOLOGICAL WASTEWATER TREATMENT FACILITY. FOR UNUSED OR UNCONTAMINATED MATERIAL, THE PREFERRED DISPOSAL OPTIONS ARE TO SEND TO A LICENSED RECYCLER, RECLAIMER, OR INCINERATOR. THE SAME DISPOSAL OPTIONS ARE RECOMMENDED FOR USED OR CONTAMINATED MATERIAL, ALTHOUGH ADDITIONAL EVALUATION IS REQUIRED (SEE, FOR EXAMPLE, 40 CFR, PART 261, "IDENTIFICATION AND LISTING OF HAZARDOUS WASTE"). ANY DISPOSAL PRACTICE MUST BE IN COMPLIANCE WITH FEDERAL, STATE, PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. CHECK WITH THE APPROPRIATE AGENCIES FOR YOUR LOCATION. FOR ADDITIONAL INFORMATION, SEE SECTION 4 (REACTIVITY DATA) AND "REGULATORY INFORMATION".

AS A SERVICE TO ITS CUSTOMERS, DOW CAN PROVIDE LISTS OF COMPANIES WHICH RECYCLE, REPROCESS OR MANAGE CHEMICALS AND COMPANIES THAT RECONDITION USED DRUMS. TELEPHONE DOW'S CUSTOMER INFORMATION CENTER AT 800/258-2436 FOR FURTHER DETAILS.

6. HEALTH HAZARD DATA:

EYE: MAY CAUSE SLIGHT TRANSIENT EYE IRRITATION. CORNEAL INJURY IS UNLIKELY.

SKIN CONTACT: ESSENTIALLY NONIRRITATING TO SKIN ON PROLONGED CONTACT.

SKIN ABSORPTION: A SINGLE PROLONGED SKIN EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS. THE LD50 FOR SKIN ABSORPTION IN RABBITS IS GREATER THAN 10,000 MG/KG. REPEATED EXPOSURES MAY CAUSE SLIGHT FLAKING, TENDERNESS AND SOFTENING OF SKIN.

INGESTION: SINGLE DOSE ORAL TOXICITY IS LOW. THE ORAL LD50 FOR FEMALE RATS IS ABOUT 20.3 G/KG. NO HAZARDS ANTICIPATED FROM SWALLOWING SMALL AMOUNTS INCIDENTAL TO NORMAL HANDLING OPERATIONS.

INHALATION: A SINGLE PROLONGED (HOURS) INHALATION EXPOSURE IS NOT LIKELY TO CAUSE ADVERSE EFFECTS. MISTS ARE NOT LIKELY TO BE HAZARDOUS.

SYSTEMIC (WIDER TARGET ORGAN) EFFECTS: REPEATED EXCESSIVE
INGESTION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS.

CANCER INFORMATION: DID NOT CAUSE CANCER IN LONG-TERM ANIMAL
STUDIES.

TERATOLOGY (BIRTH DEFECTS): BIRTH DEFECTS ARE UNLIKELY.
EXPOSURES HAVING NO ADVERSE EFFECTS ON THE MOTHER SHOULD HAVE
NO EFFECT ON THE FETUS.

REPRODUCTIVE EFFECTS: IN ANIMAL STUDIES, HAS BEEN SHOWN NOT TO
INTERFERE WITH REPRODUCTION.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): RESULTS OF IN VITRO
(TEST TUBE) MUTAGENICITY TESTS HAVE BEEN NEGATIVE. RESULTS OF
MUTAGENICITY TESTS IN ANIMALS HAVE BEEN NEGATIVE.

1. FIRST AID:

EYES: FLUSH EYES WITH PLENTY OF WATER.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: INDUCE VOMITING IF LARGE AMOUNTS ARE INGESTED.
CONSULT MEDICAL PERSONNEL.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT
A PHYSICIAN.

NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE.
TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO
REACTIONS OF THE PATIENT.

3. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): PROPYLENE GLYCOL: AIHA WEEL IS 50 PPM
TOTAL, 10 MG/M3 AEROSOL ONLY.

VENTILATION: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR
MOST CONDITIONS.

RESPIRATORY PROTECTION: NO RESPIRATORY PROTECTION SHOULD BE
NEEDED.

SKIN PROTECTION: FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN
CLEAN BODY-COVERING CLOTHING SHOULD BE NEEDED. USE IMPERVIOUS
GLOVES WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD
OCCUR.

EYE PROTECTION: USE SAFETY GLASSES.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
EXERCISE REASONABLE CARE AND CAUTION.

SPILLS OF THESE ORGANIC LIQUIDS ON HOT FIBROUS INSULATIONS
MAY LEAD TO LOWERING OF THE AUTOIGNITION TEMPERATURE POSSIBLY
RESULTING IN SPONTANEOUS COMBUSTION.

REGULATORY INFORMATION: (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED).

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE AS OF THE EFFECTIVE DATE SHOWN ABOVE. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED, IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE MSD SHEET FOR HEALTH AND SAFETY INFORMATION.

U.S. REGULATIONS

=====

SARA 313 INFORMATION: TO THE BEST OF OUR KNOWLEDGE, THIS PRODUCT CONTAINS NO CHEMICAL SUBJECT TO SARA TITLE III SECTION 313 SUPPLIER NOTIFICATION REQUIREMENTS.

SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III) AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:

NOT TO HAVE MET ANY HAZARD CATEGORY

TOXIC SUBSTANCES CONTROL ACT (TSCA):

ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

CANADIAN REGULATIONS

=====

WHMIS INFORMATION: THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

THIS PRODUCT IS NOT A "CONTROLLED PRODUCT" UNDER WHMIS.

CANADIAN TDG INFORMATION: FOR GUIDANCE, THE TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION FOR THIS PRODUCT IS:

NOT REGULATED.

(R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY
THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT
NO WARRANTY, EXPRESS OR IMPLIED, IS MADE. CONSULT THE DOW
CHEMICAL COMPANY FOR FURTHER INFORMATION.